a compound of any non-metal with a metal is a salt of a metal." This would, of course, include such bodies as antimonetted and arsenetted hydrogen, hydride of copper, and so on. The definitions of acids and bases, too, are weak. It may almost be inferred that such is the case, by the manner in which the author uses the term acid; N_2O_3 is called nitrous acid; I_2O_5 iodic acid, and, in the same line, $HBrO_3$ bromic acid; B_2O_3 boracic acid, and so on. There is one thing which the author tells us which is a curiosity in chemical history. On page 38 it is stated "some few of the elements receive their symbols *from the names given to them* by the ancients—*e.g.* Iron (Fe.) from *Ferrum*, Sodium (Na.) from *Natrium*." We certainly were under the impression that Sodium was discovered in 1807 by Sir Humphry Davy. A number of questions are appended to the book which will be found very useful to those employed in teaching.

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.*]

Ocean Currents

SURELY Mr. Ferrel must have misapprehended my arguments, or he would not have advanced the case of the tides against me. Undoubtedly the ocean will sink to its old level when the lifting force of the moon is withdrawn, even though the height to which the waters are raised may not exceed an inch. I agree also with what he says in regard to the improbability of ocean currents being caused by the heaping up of the waters by the winds. I believe that this erroneous view of the matter has done more real mischief to the wind theory than all the arguments advanced by the advocates of the gravitation theory put together. The notion that because the winds are applied to the surface of the ocean they can produce only surface drift is an error of a similar character.

I shall shortly refer to an important point bearing on the influence of rotation overlooked both by Dr. Colding and Mr. Ferrel. In my last paper in the *Phil. Mag.*, October 1871, p. 266, there is a trifling mistake to which I shall also refer.

Edinburgh JAMES CROLL

Science Stations

ALLOW me to say a few words in reply to your editorial of Feb. 29. It does seem to me to be a pity to "run the risk of spoiling a good work" by multiplying suggestions and urging counter claims. It is not quite fair that when biologists start a proposal for obtaining a necessary but costly aid to their studies, the devotees of other sciences should exclaim, "Oh, we must have one, too!" If all speak at once in this way no one will be heard, and we shall get no stations of any sort. Probably the writer of the article is not aware of the expense and requirements of a zoological station, otherwise he would not propose to increase the difficulty by thrusting a meteorological and astronomical observatory on the backs of its promoters, and then observe that "the outlay need not be heavy." It is notorious that there are meteorological and astronomical observatories in almost every part of the globe; but there is nothing of the kind for zoology. Under these circumstances it is to me a disappointment that the suggestion for zoological stations meets with what looks like a somewhat selfish criticism, in place of unqualified support, at the hands of physicists.

As to the station in England, I do not gather from Dr. Dohrn's article that he proposes to separate teaching entirely, or even partially, from the stations. He leaves it alone. "Teaching" can come or go just as those who deal in it may please; but that instruction in rudimentary zoology should be a chief object of the station is a proposal of the same nature as would be that to make use of Greenwich Observatory for giving lessons in the outlines of astronomy, and is not entertained by him for a moment. It no doubt would be a very good thing that students from Cambridge and Oxford and London should spend some time in a zoological station; and it would also be good for others of them to work in a lead or copper mine, or pass a few nights in an astronomical observatory; but we cannot urge the wants of these particular students as any reason for the maintenance of these three things. The primary object for which zoological stations will be erected—one for which it is to be hoped that the Universities, as well as scientific societies and private individuals, will be ready to subscribe money—is the prosecution of science.

We claim for biology now a place of far higher importance in the scheme of human knowledge than she has occupied hitherto. She has proved her claim to the respect and most serious attention of men by the discovery of the principles and detailed laws of evolution—a discovery which has more widely influenced human thought than has any other product of modern science, and must continue long so to do. We are no longer content to see biology scoffed at as "inexact," or gently dropped as "natural history," or praised for her relations to medicine. On the contrary, biology is the science whose development belongs to the day. At this moment she is deserving of more attention, more material aid, more assistance in her young growth, than any other human science. Her youthful performances, her hopeful stride onwards, promise more abundant results from pecuniary aid given to her than can be hoped for from her older sisters, who have "settled in life." If biology requires "stations," she ought to be gladly supplied with them.

I must protest against the notion—urged in your article only, I imagine, as a joke—that without "teaching" (whatever that may mean) there would be danger of a zoological station becoming the home of a narrow zoological clique. The connection is not explained, and I do not think any of your readers will see it. Are observatories the homes of narrow astronomical cliques? Are telescopes without professors liable to become the resort of ambitious young persons, anxious chiefly to discover hydrogen flames where nobody had found them before? I do not believe a bit in the narrow clique suggestion. Teaching bodies breed them much more rapidly and naturally than do working bodies. And as to the privat-docent, anxious to discover a notochord, or the amateur astronomer hunting for hydrogen flames, I would most gladly see them multiplied exceedingly abundantly. Would that we could obtain the institution of "privat-docents" in English Universities; by simply erecting a zoological station, would that we could infuse some of their kind of ambition—one of the best a man can have—into English students.

Naples, March 4 E. RAY LANKESTER

[*** The article to which our correspondent refers was written by a distinguished biologist.—ED.]

The Etymology of "Whin."

THE following is from Jamieson:—"*Quhyn*, *Quhin-Stane*, s. i. Green-stone; the name given to basalt, trap, &c. . . . Isl. *hwijna*, resonare, *hwin*, resonans, q. 'the resounding stone.'" "Whin, whinstane, *s.* Ragstone or toadstone."

Whin or gorse, the name given to *Ulex europæus*, common furze, is from a different root, being traced to Welsh *ehwynyn* = weed.

A. HALL

YOUR correspondent, Mr. W. R. Bell, will find a derivation given for "Whin" in Jamieson's "Scottish Dictionary," where, under the name *Quhyn* or *Quhin*, it is referred to the "Islandic *hwijna*, resonare," "*hwin*, resonans, q. the resounding stone," probably from the resonance emitted on its being struck. It is in all likelihood the same as the word *whine*, and the root is present in both Celtic and Teutonic tongues, *e.g.*:—

Welsh	*Cwyno*, to complain
Irish	*Cuinead*, mourning (?)
Islandic	*hwijna* (as above)
Danish	*hvine*, to whistle
German	*weinen*, to weep

Compare also the Latin *hinnio*, to neigh.

F. DE CHAUMONT

Oakland, Woolston, March 15

WEBSTER, in his Dictionary (9th edition, 1862), says in explaining this word, which is known all over England, that it means *weeds, gorse, furze, waste growth*, from the Welsh *Chwyn*. That it is "a provincial name given to basaltic rock, and applied by miners to any kind of dark-coloured and hard unstratified rock which resists the pick."

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There is also "*whin-axe*," an instrument for extirpating whin from land.

The Scotch form of whin is *quhyn*.

March 16 John Jeremiah

The Aurora of February 4

This Aurora was seen throughout Europe, including Russia and Constantinople, in Egypt, in the Mauritius, and in India.

May not all auroras pervade the atmosphere around the entire globe and be visible wherever night prevails with a sufficiently clear sky? And so may not the southern and northern aurora belong to one and the same universal aurora?

George Greenwood

Alresford, March 16

I see notices in the English papers of a great aurora seen in all parts of Scotland, England, and even as far south as Alexandria in Africa. It may be interesting for your readers to know that it was visible here on the same evening—Sunday, February 4. I saw it first at 6.30 P.M., and at various times after that until 10.30, after which I did not look out of doors. There were no streamers, and the peculiarity of the appearance was that it was in all directions, and less in the north than in the west and east. It presented the appearance of a dull red fog, in shifting masses, and more like the haze I observed here in 1861, when the earth was said to have passed through the tail of the comet of that year. Auroras are very rare in this latitude, but we have had four or five displays in fifteen months: one so bright as to excite the alarm of fire, and to call out the fire department.

George S. Blackie

Nashville, Tennessee, U.S., Feb. 27

Barometric Depressions

By the introduction of parenthetical sentences between words, which do to some extent represent my meaning, though they are not mine, as the inverted commas would imply, and by the omission of the main point of his own argument, Mr. Ley has presented as mine certain propositions which may well appear to him and to every one who reads them, not only irreconcileable, but sheer nonsense. As these parenthetical interpolations are Mr. Ley's own, and as the point in his argument to which I took exception was not the application of Buys Ballot's Law, but his proposition—shortly stated—that revolving storms are caused by heavy rain, I conceive that his version of my views, which may be funny but is certainly incorrect, is scarcely worth the serious attention of any one.

As to the rest, it is a great thing, in any branch of science, to establish points beyond the reach of further argument or doubt. The depression of the barometer in summer over a great part of Asia has hitherto seemed one of the most curious and difficult problems in Physical Geography. We now know all about it. There is no more room for doubt. It is "really due" to the rarefaction of the air. Mr. Ley says so. What, how, why, when, or where, are details far too commonplace for him to enter upon.

The whole subject of barometric changes, and their relation to strong winds or storms, is one of extreme difficulty; and, in the present state of our knowledge, we can do little more than guess at or discuss the probable solution of the many questions that arise out of it. From the off-hand way in which Mr. Ley disposes of them, or wishes them disposed of, it would appear that he has not yet arrived at even an appreciation of their difficulty. This is the real point on which we are at issue; the range of his study has been too confined. A more general application of his industry will, I hope—should he again meet me in my capacity of critic—relieve me of the necessity of making remarks unpleasant for him to read, or for me to write.

J. K. L.

The Meteor of March 4

I have been looking out for some corresponding notice of a meteor seen here on March 4, but hitherto in vain. At first I hoped that the interesting accounts from Ireland, published in the last number of Nature, might have referred to the same phenomenon; but I soon found that the dates were discordant, and I now beg to forward the following brief notice of the earlier one:—

On the above-mentioned evening, about 7h. 40m. P.M. railway time, a brilliant meteor was noticed by my gardener Thomas Wood. According to his account it appeared about 20° or 30° above the N. horizon as a ball of red fire passing rapidly from W. to E., about one-third as large as the full moon, with a tail seven or eight times its diameter in length, the portion nearest the head being reddish; but changing at about one-third of its length to green, which was especially distinct towards its tapering point. The head seemed to be surrounded by some sparks. It threw such a light upon the ground as to show all the growing wheat in the field through which the spectator was passing. The course was rather descending, and it went out suddenly without coming down to the horizon. I have heard of only one other person in the neighbourhood who saw the light cast by the meteor, and who described it as extremely brilliant. It is singular that it has not been more generally noticed. The especial interest attached to it is the fact that, in common with the one observed only four days later in Ireland, its course was in the unusual direction of the earth's motion.

Hardwick Vicarage, Hay, March 18 T. W. Webb

THEODOR GOLDSTÜCKER

For the following particulars of the career of the late Prof. Goldstücker we are indebted mainly to the *Academy* and *Trübner's Oriental Record*:—

By the death of Theodor Goldstücker, at the early age of fifty-one, philology has lost one of its greatest scholars, and society, what it can still less afford to lose, one of the noblest and most disinterested of men. Born at Königsberg, in Prussia, he began the study of Sanskrit, for the profound knowledge of which he has since become so famous throughout the world, under Prof. Peter von Bohlen, at the University of that town. He continued this study under Profs. August Wilhelm von Schlegel and Christian Lassen at Bonn. He afterwards resided for some time at Paris, where he enjoyed the friendship of men of the greatest distinction, such as Burnouf, Letronne, &c. He then resided at the University of Berlin, where he began soon to display great scholarly activity. Alexander von Humboldt formed already at that time a very high estimate of the capacities of the young scholar, whose aid, in several very difficult questions of Indian philosophy, he gratefully acknowledged in his "Kosmos."

After the reaction of 1848-9, Goldstücker came over to England for the purpose of assisting Prof. Wilson in the preparation of a new edition of his Sanskrit Dictionary. For this new edition no material whatever existed save the dictionary itself in its printed form. Goldstücker, nevertheless, undertook its revision single-handed; and the immense proportions which under his hand the first six parts assumed (480 pp. without getting to the end of the first letter) rendered the completion of the work by one man or in one generation impossible. Many thousands of notes and references for this and other works, the result of an unremitting study of the MSS. treasures at the India House, &c., are left behind; and we are glad to learn from the *Academy* that the report in some of the newspapers that the deceased had left directions in his will for their destruction is without foundation.

The earliest work undertaken by Goldstücker was the translation into German of the "Prabodha Chandrodaya," a theologico-philosophical drama, by Krischna Miçra, to which Professor Rosenkranz wrote a Preface. In 1861 he published, as an Introduction to a Fac-simile Edition of the "Manava-Kalpa-Sutra," an investigation of some literary and chronological questions, which may be settled by a study of Panini's work, under the title of "Panini, his place in Sanskrit literature." Goldstücker also edited the text of the "Jaiminîya-nyâya-mâlâ-vistara," of which work 400 pages in large quarto are in type.

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